Control Valve 8043

with integrated positioner

GS 3 series 1/2“ up to 4“

Pneumatic control valve for control and switching of neutral through to highly aggressive media in process engineering, chemical industry and for plant equipment.

- Integrated positioner
- Lowest possible weight
- Fast response
- High Cv-values
- Tight shut-off
- Lower cost piston actuator

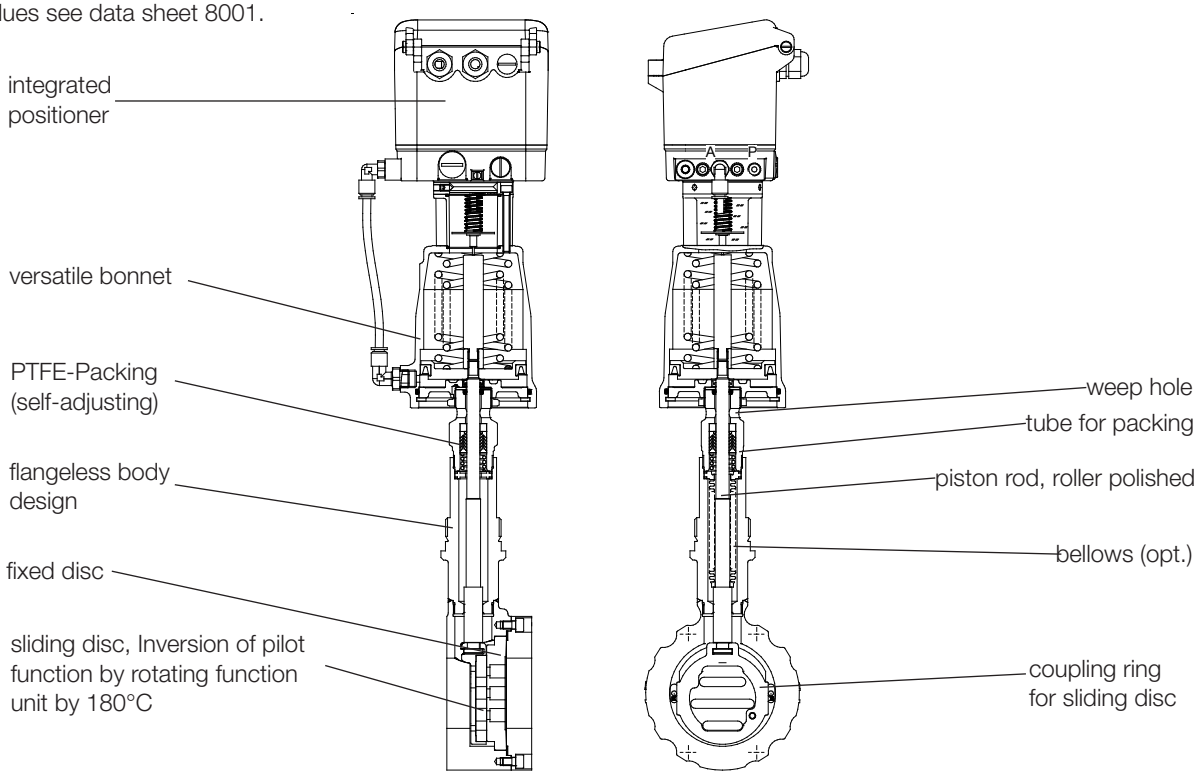
Technical Information

Design	ANSI flange wafer (self-aligning)		
Nominal sizes	1/2" up to 4"		
Nominal pressure acc. DIN 2401 for flanges with facing type B	580 psi (fits also to 145 up to 365 psi)	1/2" - 4"	
Nominal pressure acc. ANSI for flanges acc. ASME B16.5 RF	ANSI 150 ANSI 300	1/2" - 4" 1/2" - 4"	
Nominal pressure acc. JIS for "raiced face" flanges	10K 20K	1/2" - 2" 1/2" - 1 1/2"	
Fluid Temperature	carbon steel body stainless steel body	14°F up to +572°F -76°F up to +662°F	
Rangeability / Characteristic analog positioner digital positioner	 25 : 1 30 : 1		
Leakage Rate (% of Cv-value)	carbon, FUY < 0,0001	SFC < 0,0005	STN2 < 0,001

Cvs-values see data sheet 8001.

Options

- Bellow (stainless steel)
- Position indicator
- External I/P-converter



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Control Valve 8043-GS3

with integrated positioner

SCHUBERT SALZER INC.

Pressure ratings
(For temperatures of up to 250°F)

For temperatures exeeding 250°F: consider operation limits

p/p- and i/p-positioner, Type 8047

carbon - stainless steel coated
SFC - stainless steel coated

Size	actuator	max. differential pressure		min. pilot
		control	on/off	pressure
		(psi)	(psi)	(psi)
1/2"	3"	580	580	45 - 85
3/4"	3"	535	535	50 - 85
1"	3"	420	450	50 - 85
1 1/4"	3"	305	365	60 - 85
1 1/2"	3"	205	275	60 - 85
2"	3"	115	175	65 - 85
2 1/2"	3"	100	145	65 - 85
3"	3"	60	85	65 - 85
4"	3"	35	60	65 - 85
1/2"	5"	580	580	45 - 85
3/4"	5"	580	580	45 - 85
1"	5"	580	580	45 - 85
1 1/4"	5"	580	580	45 - 85
1 1/2"	5"	495	580	45 - 85
2"	5"	290	390	50 - 85
2 1/2"	5"	230	335	50 - 85
3"	5"	145	205	50 - 85
4"	5"	85	130	50 - 85

STN 2

Size	actuator	max. differential pressure		min. pilot
		control	on/off	pressure
		(psi)	(psi)	(bar)
1/2"	3"	405	435	50 - 85
3/4"	3"	275	335	60 - 85
1"	3"	190	245	60 - 85
1 1/4"	3"	130	190	60 - 85
1 1/2"	3"	80	115	60 - 85
2"	3"	45	75	65 - 85
2 1/2"	3"	35	60	65 - 85
3"	3"	-	-	-
4"	3"	-	-	-
1/2"	5"	580	580	45 - 85
3/4"	5"	580	580	45 - 85
1"	5"	435	550	45 - 85
1 1/4"	5"	305	405	45 - 85
1 1/2"	5"	190	275	45 - 85
2"	5"	100	160	50 - 85
2 1/2"	5"	85	130	50 - 85
3"	5"	50	75	50 - 85
4"	5"	30	45	50 - 85

digital positioner, Type 8049
(also on-off valves and valves with other side-mounted positioner)

carbon - stainless steel coated
SFC - stainless steel coated

Size	actuator	max. differential pressure	min. pilot
		control, on/off	pressure
		(psi)	(psi)
1/2"	3"	580	50 - 85
3/4"	3"	580	50 - 85
1"	3"	580	50 - 85
1 1/4"	3"	580	60 - 85
1 1/2"	3"	435	60 - 85
2"	3"	275	65 - 85
2 1/2"	3"	230	65 - 85
3"	3"	145	75 - 85
4"	3"	85	75 - 85
1/2"	5"	580	45 - 85
3/4"	5"	580	45 - 85
1"	5"	580	45 - 85
1 1/4"	5"	580	45 - 85
1 1/2"	5"	580	45 - 85
2"	5"	580	50 - 85
2 1/2"	5"	535	50 - 85
3"	5"	335	60 - 85
4"	5"	205	60 - 85

STN2

Size	actuator	max. differential pressure	min. pilot
		control, on/off	pressure
		(psi)	(psi)
1/2"	3"	580	50 - 85
3/4"	3"	535	60 - 85
1"	3"	390	60 - 85
1 1/4"	3"	290	65 - 85
1 1/2"	3"	190	65 - 85
2"	3"	115	75 - 85
2 1/2"	3"	85	75 - 85
3"	3"	50	75 - 85
4"	3"	30	75 - 85
1/2"	5"	580	45 - 85
3/4"	5"	580	45 - 85
1"	5"	580	45 - 85
1 1/4"	5"	580	50 - 85
1 1/2"	5"	390	50 - 85
2"	5"	260	60 - 85
2 1/2"	5"	220	60 - 85
3"	5"	130	60 - 85
4"	5"	80	60 - 85

Control Valve 8043-GS3

with integrated positioner

Materials

Body	stainless steel 318	carbon steel ASTM A216	
Intermediate pipe	stainless steel 316 Ti		
Bonnet	brass plated (actuator ø 2", ø 3") aluminium corrosion proof (actuator ø 5")		
Springs	stainless steel 304 (actuator ø 2", ø 3") spring steel wire C, coated (actuator ø 5")		
Packing	PTFE (carbon filled), spring SST 301		
Actuating stem	stainless steel, roller burnished		
Bellow	stainless steel 316 Ti		
Fixed plate	stainless steel 316 Ti, stellite		STN2-disc
Sliding disc	standard: special carbon material	SFC-disc	STN2-disc
Coupling ring for discs	stainless steel 318		
Optical position indicator	PA Trogamid (transparent)		

Positioner

For technical information of our positioners please refer to the corresponding data sheets.

Pressure - Temperature ratings for GS3 Valves

ANSI #150

	Sliding unit: carbon/SFC - stainless steel, coated maximum pressures for GS3-valves (psi)					
Size	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
1/2" - 4"	230	220	190	175	145	125

Sliding unit: carbon - STN2 maximum pressures for GS3-valves (psi)					
210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
230	220	190	175	145	125

Limitation for SFC-sliding discs: 570°F

ANSI #300

	Sliding unit: carbon/SFC - stainless steel, coated maximum pressures for GS3-valves (psi)					
Size	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
1/2" - 2 1/2"	580	550	510	480	450	435
3"	580	550	510	480	450	435
4"	480	450	420	390	365	350

Sliding unit: carbon - STN2 maximum pressures for GS3-valves (psi)					
210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
580	550	510	480	450	435
520	495	480	375	320	275
480	450	420	350	290	245

Limitation for SFC-sliding discs: 570°F

Control Valve 8043-GS3

with integrated positioner

Ordering Number System

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
8	0	4	3	/				V	F					M								Z			S

Type — Size — Symbol: "V": Valve; "R": Repair kit (sealings)

1 - 5 : Please quote all 5 sections
6 - 12: Quote only if required

1.	Function	2.	Body design	3.	Body material	4.	Pilot function	5.	Actuator	6.	Special versions	7.	Springs	8.	Stem sealing
F	GS-Control Valve with piston actu. long design (Type 8043)	E	GS3 - flangeless design acc. ANSI 150	0	carbon steel ASTM A216	0	Spring to close	8	piston 3" (NPT)	M	to state if some sections 7-16 are quoted!	-	standard	-	PTFE-V-shaped sealing rings, self- adjusting
		F	GS3 - flangeless design acc. ANSI 300	1	stainless steel 318	1	Spring to open	9	piston 5" (NPT)					1	additional bellow 316 Ti
		G	GS3 - flangeless design acc. DIN, 145 - 580 psi	2	carbon steel A216 reduced design										
				3	stainless steel 318 reduced design										

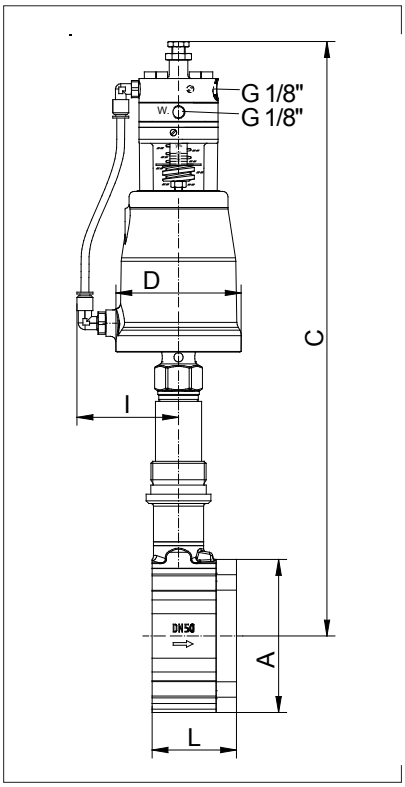
9.	Sliding disc	10.	Fixed disc	11.	Cv-values	12.	Characteristic	13.	Accessories	14.	Positioner	15.	Special versions	16.	Special version
-	carbon material	-	stainless steel/ stellite	-	100 %(Stand.)	-	linear	Z	to state, if in sections 14 and 15 accessories are quoted	2	p/p-positioner Type 8047 +pos.indicator	1	air-tube-connection actuator-positioner in plastic (PA)	S	please quote further special versions in clear text
9	STN2/STN3	1	STN2-plate (only in combination with the positon "9")	A	red. auf 63 %	1	equal percentage			3	i/p positioner Type 8047 +pos.indicator				
S	SFC	3	STN3-plate (only in combination with the positon "9")	1	red. auf 40 %					5	i/p positioner Type 8047 +pos.indicator Eex ib II CT6, plug conn. M12x1				
				B	red. auf 25 %										
				2	red. auf 16 %					8	i/p positioner Type 8047 plug conn. M12x1,pos.indicator				
				C	red. auf 10 %										
				3	red. auf 6,3 %					C	dig. positioner, Type 8049, 4-wire				
				4	red. auf 2,5 %										
				5	red. auf 1 %					R	dig. positioner, Type 8049, 2-wire				
				6	red. auf 20 %										
				7	red. auf 12 %					T	dig. positioner, Type 8049, AS-i version				
				8	red. auf 2 %										
				9	red. auf 0,4 %					W	dig. positioner, Type 8049, 2-wire ex-version				

Ordering example: 8043/050VFE101M-1--2-Z8
GS3-control valve with piston actuator, long design, 2“, ANSI#150, body material stainless steel, NC, actuator Ø 3“, bellow, disc pair: carbon material - stainless steel 316 Ti coated, fixed disc stainless steel 316 Ti coated, Cv-value 16 % (red.), linear characteristics, integrated i/p-positioner with position indicator

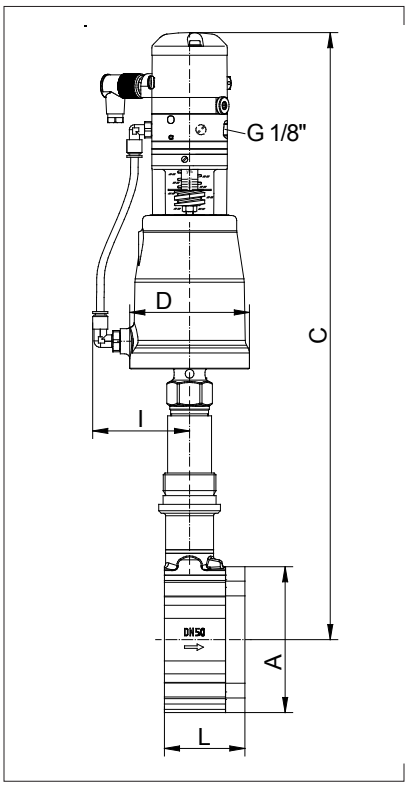
Control Valve 8043-GS3

with integrated p/p and i/p - positioner, Type 8047

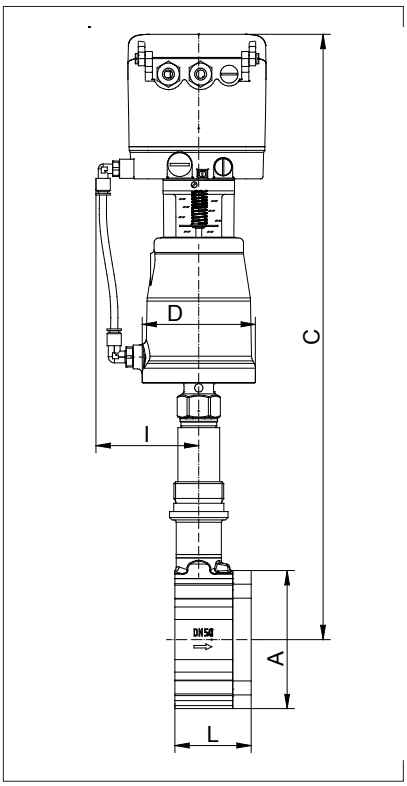
Dimensions and Weights



Type 8043 with p/p-positioner
Type 8047
with position indicator



Type 8043 with i/p - positioner
Type 8047
with position indicator



Type 8043 with digital positioner
Type 8049
with position indicator

Size	Actuator Ø	A	L	D	I	C p/p positioner	C i/p positioner	C digital positioner	Stroke H	Weight (lbs)
1/2"	3"	2.52	2.2	3.78	3.15	16.77	18.03	19.06	0.24	13.5
1/2"	5"	2.52	2.2	5.75	4.13	17.56	18.82	19.84	0.24	17.5
3/4"	3"	2.83	2.2	3.78	3.15	16.93	18.19	19.21	0.24	14.5
3/4"	5"	2.83	2.2	5.75	4.13	17.72	18.98	20	0.24	18.5
1"	3"	3.23	2.2	3.78	3.15	17.13	18.39	19.41	0.24	14.5
1"	5"	3.23	2.2	5.75	4.13	17.91	19.17	20.2	0.24	18.5
1 1/4"	3"	3.5	2.2	3.78	3.15	17.2	18.46	19.49	0.24	15
1 1/4"	5"	3.5	2.2	5.75	4.13	17.99	19.25	20.28	0.24	19
1 1/2"	3"	3.9	2.2	3.78	3.15	17.44	18.7	19.72	0.24	16
1 1/2"	5"	3.9	2.2	5.75	4.13	18.23	19.49	20.51	0.24	20
2"	3"	4.57	2.52	3.78	3.15	17.76	19.02	20.04	0.31	19
2"	5"	4.57	2.52	5.75	4.13	18.54	19.8	20.83	0.31	23
2 1/2"	3"	5.43	2.68	3.78	3.15	18.11	19.37	20.39	0.31	22.5
2 1/2"	5"	5.43	2.68	5.75	4.13	18.9	16.22	21.18	0.31	26.5
3"	3"	6.02	2.76	3.78	3.15	18.46	19.72	20.75	0.31	25
3"	5"	6.02	2.76	5.75	4.13	19.25	20.51	21.54	0.31	29
4"	3"	7.24	2.95	3.78	3.15	18.98	20.24	21.26	0.33	32.5
4"	5"	7.24	2.95	5.75	4.13	19.76	21.02	22.05	0.33	36

Dimension C „reduced design“ shortened by 1“

Dimensions in inch

Control Valve 8043-GS3

SCHUBERT SALZER INC.

Flow Coefficients - Cv-values

Ordering code		-	A	1	B	6	2	7	C	3	4	8	5	9
Size	Charact.	100 %	63 %	40 %	25 %	20%	16 %	12 %	10 %	6,3 %	2,5 %	2 %	1 %	0,4%
1/2"	(mod.) linear	4.6	3	2	1.6	-	0.82	0.57	0.51	0.3	0.16	0.09	0.05	-
	eq. perc.	2	-	1.3	-	-	-	-	-	0.12	-	-	-	-
3/4"	(mod.) lin.	7.4	-	-	-	-	1.16	-	-	-	-	0.15	-	-
	eq. perc.	3.5	-	-	-	-	-	-	-	-	-	-	-	-
1"	(mod.) linear	13	7.4	4.6	-	-	1.9	-	1.08	0.72	0.3	-	0.16	0.05
	eq. perc.	5.8	-	2.8	-	1.3	-	-	-	-	-	-	-	-
1 1/4"	(mod.) linear	19	12	-	-	-								
	eq. perc.	9.3	-	-	-	-								
1 1/2"	(mod.) lin.	30	19	13	8.1	-								
	eq. perc.	13	9.9	-	3.2	-								
2"	(mod.) linear	52	32	23	14	12								
	eq. perc.	22	14	-	-	-								
2 1/2"	(mod.) linear	60	41	-	17									
	eq. perc.	35	-	-	9.3									
3"	(mod.) linear	107	67	46										
	eq.perc.	56	41	-										
4"	(mod.) linear	179	110	72										
	eq.perc.	89	56	-										
5"	(mod.) linear	275	-	110										
	eq.perc.	135	-	-										
6"	(mod.) linear	392	246	-										
	eq.perc.	171	104	-										
8"	(mod.) linear	650	408	-										
	eq.perc.	-	-	-										
10"	(mod.) linear	1056												
	eq.perc.	-												